

ABSTRACT

Method and apparatus for communicating heterogeneous data traffic simultaneously using a hybrid Code Division Multiplexing (CDM) / Code Division Multiple Access (CDMA) - Time Division Multiplexing (TDM) / Time Division Multiple Access (TDMA) system which communicates data on a per data type basis, rather than a per user or per channel basis. A transmitter accepts a plurality of data streams, each of which includes either Constant Bit Rate Data (CBR) or Variable Burst Rate Data (VBR), where CBR is characterized by a steady data rate and strict latency requirements and VBR is characterized by a variable data rate with large peaks and lulls and loose latency requirements. The system identifies each input data stream as CBR or VBR. CBR data is spread using CDM/CDMA with an appropriate spreading factor for CBR, whereas VBR data is modulated/encoded and interleaved with CDM/CDMA with an appropriate spreading factor for VBR and TDM/TDMA, respectively. The modulated CBR data and VBR data streams are then transmitted by the transmitter to a receiver, which receives and demodulates the received data streams to recover the original CBR data and VBR data streams. By communicating input data streams based on whether they include CBR data or VBR data, the communication system is able to communicate CBR data and VBR data simultaneously while achieving a superior Quality-of-Service.